

ICIAM 2003 -- 5th International Congress on Industrial and Applied Mathematics



Minisymposium ICM012A-01

High Performance Numerical Libraries for Scientific Computing

Organiser: Osni Marques

Affiliation: Lawrence Berkeley National Laboratory, USA

Subject Areas: Computational Science
Numerical Linear Algebra
Numerical Analysis and Methods

Session: 7, Thu-AM

Date: 10 July

Time: 11.00am

Room: SPM6

IC-class: IC01A

Abstract

This minisymposium focuses on state-of-the-art numerical tools currently used worldwide in scientific computing applications. Such mathematical tools for addressing more complex physical and societal phenomena, along with the growth of computing resources, is driving the continuous growth of the computational sciences community. This community includes scientists, designers and developers of high-end technology who require computerized modeling solutions and portable software libraries. Some of these libraries are part of the US Department of Energy's Advanced Computational Software (ACTS) Collection while others are part of the HSL from Rutherford Appleton Laboratory. The speakers will introduce general concepts used in these software libraries, their functionalities, and applications that have benefited from these techniques.

Speakers

#1: Marques Lawrence Berkeley National Laboratory, USA

An Overview of the DOE Advanced Computational Software (ACTS) Collection

#2: Duff Rutherford Appleton Laboratory

The HSL Library

#3: Meza Lawrence Berkeley National Laboratory, USA

Object-Oriented Parallel Optimization Methods for Simulation-Based Problems

#4: Moré Argonne National Laboratory

Toolkit for Advanced Optimization: Challenges and Results

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